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NAVFAC **IGS-13281 (DECEMBER 2002)**

Supercedes IGS-13281 (05/02)

Preparing Activity: LANTNAVFACENGCOM **Based on UFGS-13281N**

ITALIAN GUIDE SPECIFICATIONS

Use for ITALIAN projects only

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SECTION 13281

ENGINEERING CONTROL OF ASBESTOS CONTAINING MATERIALS

12/02

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NOTE: This guide specification is issued by the Atlantic Division, Naval Facilities Engineering Command for regional use in Italy.

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NOTE: This guide specification covers safety procedures and requirements for the demolition, removal, encapsulation, and disposal of asbestos containing materials (ACM).

Nonfriable asbestos containing materials do not always require special handling. However, during demolition and removal of this material dust and airborne asbestos fibers will sometimes be released. If the project contains nonfriable asbestos which may release fibers when demolished and removed, the nonfriable asbestos shall be removed in the same way as friable asbestos.

Asbestos operations do not always indicate negative pressure enclosure type asbestos control with all of its attendant requirements. The location of the area, type of material, and initial as well as other exposure assessments for abatement workers and the environment must be reviewed and a judgement made by the designer as to the precise asbestos control techniques described herein that may be safely and legally used.

It is the policy of the Navy to eliminate the use of materials containing asbestos wherever possible. Therefore, the designer shall not use asbestos containing materials wherever a substitute, suitable to the Navy, exists.

The limits and conditions of asbestos hazard abatement efforts must be indicated on the drawings or in the specification in sufficient detail for the Contractor to submit an accurate bid. Portions of the building where asbestos work will take place must be unoccupied during the removal operation. It is highly recommended that the entire building be unoccupied during asbestos hazard abatement operations. If portions of the building where asbestos hazard abatement is not taking place must remain occupied, additional requirements must be added for providing temporary heating/cooling and other utilities to the occupied portions of the building. The building heating/cooling system for example cannot be operated in the asbestos control area and due to wet removal procedures, electrical service to the asbestos control area may need to be shut off and resupplied through a ground fault circuit interrupter. In addition, the rooms with openings into the room undergoing asbestos abatement must be empty with critical barriers installed to provide a buffer zone.

Comments and suggestion on this specification are welcome and should be directed to the technical proponent of the specification. A listing of the technical proponents, including their organization designation and telephone number, is on the Internet.

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

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NOTE: Designer shall coordinate project requirements with the DOD Environmental Final Governing Standards for Italy, dated 29 January, 2002 and subsequent updates and revisions. The DOD-FGS-Italy can be found at the LANTDIV website, http://www.lantdiv.navfac.navy.mil/, then follow tabs Business Lines/Environmental/Engineering Support/FGS Italy.

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NOTE: The following information shall be shown on the project drawings:

1. The project drawings shall clearly show location, extent, condition and form of asbestos materials to be controlled or in contact with other

non-ACM removals or new work.
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PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

DEPARTMENT OF DEFENSE (DOD)

DOD-FGS-Italy	(2002) Environmental Final Governing Standards for Italy

ITALIAN LAWS AND NORMS (D.M.)(D.L.)(D.P.R.)(LAW)(CIRC.)

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NOTE: Italian laws and normatives are the legislative regulations and decrees issued by the Italian government in the form of laws, norms, decrees, circulars, and letters. These Laws and Decrees concur together with Norms and Standards in forming the governing directives for construction.
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D.L. 277	(15 August 1991) Implementation of instructions n. 80/1107/CEE, n.82/605/CEE, n.83/477/CEE, n.86/188/CEE e n. 88/642/CEE regarding the protection of workers against the risks arising from chemical and biological exposure during work, as per Article 7 of Law dated 30 July 1990, n.212
D.M. 45	(10 July 1986) Technical measures and elimination of the use of asbestos containing materials in schools, hospitals and public offices
D.M. 06/09/94	(1994) Technical norms and methodology for application of Art.6, Third Comma, and Art. 12, Second Comma, of Law dated 27 March 1992, n.257, concerning the discontinuance of asbestos use
D.M. 20/08/99	(1999) Extension of norms and technical methodologies for restoring operations, including those for render harmless asbestos material provided by Art. 5, First Comma, Letter g of Law dated 27 March 1992, n. 257, containing norms

	related to the discontinuance of asbestos use
Law 257	(27 March 1992) Norms concerning the discontinuance of asbestos use
D.M. 471	(25 October 1999) Rules containing criteria, procedures and conditions for the environment safety, control and restoration of contaminated sites, as per Art. 17 of D.L. n. 22 dated 5 February 1997 and subsequent modifications and additions
D.L. 493	(14 August 1996) Enforcement of 92/88/CEE direction for minimum requirements on safety and/or health protection warning signs in the work place
D.L. 494	(14 August 1996) Implementation of the instruction 92/57/CEE concerning the minimum safety and health requirements to be accomplished in temporary or mobile work sites
D.L. 626	(19 September 1994) Realization of CEE Requirements for Improving Safety and Health of Workers on Work Sites
D.L. 02/05/01	(2001) Criteria for selection and use of personal protection devices
D.L. 17/03/95	(1995) Implementation of EEC directive 87/217/CEE in the matter of prevention and reduction of environmental pollution caused by asbestos
D.P.R. 08/08/94	(1994) Coordination and address act for Regions and Autonomous Provinces of Trento and Bolzona for adopting plans of protection, decontamination, disposal and reclamation, for defense from asbestos deriving dangers
D.M. 21/01/87	(1987) Technical norm for periodical medical examination of workers exposed to asbestos hazard

ITALIAN NATIONAL ASSOCIATION FOR UNIFICATION OF STANDARDS (UNI)

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NOTE: A UNI Norm is a technical normative recognized as Italian Law, submitted by a private organization "Ente Nazionale Italiano di

Unificazione" for Italy and is available only in the Italian language. It is the National Standard.

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UNI 8681	(1984) Building - Products for varnish systems, paint systems, textured and rendering finishes and glaze and stain systems - General criteria of classification.
UNI 8757	(1985) Building - Products for varnish systems, paint systems, glaze and stain systems and mixed - Criteria for technical information
UNI 10560	(1996) Paints and varnishes - Emulsion paints for interior masonry - Wet scrub resistance - Brush method
UNI 10686	(1998) Wrapping coatings for asbestos-cement sheets - Requirements and test methods
UNI 10687	(1998) Wrapping coatings for asbestos-cement sheets - Assessment of the wrapping coating feasibility to asbestos-cement product

1.2 DEFINITIONS

1.2.1 ACM

Asbestos Containing Materials - any material containing greater than one percent asbestos by weight.

1.2.2 Adequately Wet

To sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from ACM, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

1.2.3 Amended Water

Water containing a wetting agent or surfactant with a maximum surface tension of 2.9 Pa when tested with a tensiometer type du Nouy or equivalent.

1.2.4 Area Sampling

Sampling of asbestos fiber concentrations which approximates the concentrations of asbestos in the theoretical breathing zone but is not actually collected in the breathing zone of an employee.

1.2.5 Asbestos

The term asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, and actinolite asbestos and any of these materials that have been chemically treated or altered. Materials are considered to contain asbestos if the asbestos content of the material is determined to be greater than one percent.

1.2.6 Asbestos Control Area

That area where asbestos removal operations are performed which is isolated by physical boundaries which assist in the prevention of the uncontrolled release of asbestos dust, fibers, or debris.

1.2.7 Asbestos Fibers

Those fibers having an aspect ratio of at least 3:1 and longer than 5 micrometers as determined by D.M. 06/09/94, D.M. 471, and Law 257, including latest updated revisions.

1.2.8 Asbestos Permissible Exposure Limit

0.1 fibers per cubic centimeter of air as an 8-hour time weighted average measured in the breathing zone as defined in D.L. 277, Article 31.

1.2.9 ASL

Local Sanitary Agency (ASL) is the local Italian agency responsible for oversight of environmental and public health regulations in the area where work site is located.

1.2.10 Background

The ambient airborne asbestos concentration in an uncontaminated area as measured prior to any asbestos hazard abatement efforts. Background concentrations for other (contaminated) areas are measured in similar but asbestos free locations.

1.2.11 Competent Person

A Registered Architect, Professional Engineer, Registered Technician, consultant or other competent person who has successfully completed training and is capable of identifying existing asbestos hazards in the work place and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, and is specifically trained in a training course that meets the criteria of Italian Law for a project designer or supervisor.

1.2.12 Contractor

The Contractor is that individual, or entity under contract to the Navy to perform the herein listed work.

1.2.13 Encapsulation

The abatement of an asbestos hazard through the appropriate use of chemical encapsulants.

1.2.14 Encapsulants

Specific materials in various forms used to chemically or physically entrap asbestos fibers in various configurations to prevent these fibers from becoming airborne. Based upon D.M. 20/08/99, encapsulants can be defined as the following types:

1.2.14.1 Penetrating Encapsulants

Material formulated to penetrate the existing material and bond the asbestos fibers among themselves within a cementitious matrix.

1.2.14.2 Coating Encapsulants

Material formulated to form a thick membrane over the surface of the existing material and contain the asbestos fibers. Depending upon the application, coating type encapsulants may be of the following types:

a. Type A - Exposed to Sight on the Exterior: Applied to encapsulate cement-asbestos material exposed to atmospherical agents and thus subject to progressive deterioration, with emerging and release of fibers.

b. Type B - Exposed to Sight on the Interior: Applied to encapsulate cement-asbestos materials situated on the interior and that are "integral but susceptible to damage" or "damaged."

c. Type C - Not Exposed to Sight: Applied to encapsulate cement-asbestos materials supporting confinement interventions that, in case they are not combined with an encapsulant treatment, do not prevent release of fibers in the internal; and supporting covering interventions "intended as confinement interventions."

d. Type D - Auxiliary: Applied to avoid dispersion of fibers in the environment during removal interventions or during the operations of disposal of asbestos containing materials.

1.2.15 Friable Asbestos Material

Any material containing greater than one percent asbestos containing material that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.

1.2.16 Glovebag Technique

Those asbestos removal and control techniques put forth in D.M. 06/09/94 and D.M. 20/08/99. "Glovebag" means not more than a 1500 by 1500 mm impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.

1.2.17 HEPA Filter Equipment

High efficiency particulate air (HEPA) filtered vacuum and/or exhaust ventilation equipment with a filter system capable of collecting and retaining asbestos fibers. Filters shall retain 99.97 percent of particles 0.3 microns or larger as indicated in D.M. 06/09/94.

1.2.18 ISPESL

The Italian regional office of the High Institute for workers Accident Prevention and Health (ISPEL). This agency is entitled to verify and test accident prevention equipment and installations. It also keeps records of injuries or illnesses that occur in the work place.

1.2.19 Negative Pressure Enclosure (NPE)

That engineering control technique described as a negative pressure enclosure in D.L. 494. The NPE shall meet the following requirements:

a. At least 4 air changes per hour shall be maintained in the NPE.

b. A minimum of 0.51 mm of water column pressure differential, relative to outside pressure, shall be maintained within the NPE as evidenced by manometric measurements.

c. The NPE shall be kept under negative pressure throughout the period of use.

d. Air movement shall be directed away from employees performing asbestos work within the enclosure, and toward a HEPA filtration or a collection device.

1.2.20 Nonfriable Asbestos Material

Material that contains asbestos in which the fibers have been immobilized by a bonding agent, coating, binder, or other material so that the asbestos is well bound and will not normally release asbestos fibers during any appropriate use, handling, storage or transportation. It is understood that asbestos fibers may be released under other conditions such as demolition, removal, or mishap.

1.2.21 Personal Sampling

Air sampling which is performed to determine asbestos fiber concentrations within the breathing zone of a specific employee.

1.2.22 Private Qualified Person (PQP)

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NOTE: Training requirements are described in Law 257 and D.P.R. 08/08/94, that establish the duration of the courses (to be held by the Regions) and the different qualifications obtained at the end of these courses (re: D.P.R. 08/08/94, Article 10).

These courses also include responsibilities and duties of the "director of activities" (of asbestos removal), the system of control and testing, and the criteria of selection of protection devices.

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That qualified person hired by the Contractor to perform the herein listed tasks. The Private Qualified Person (PQP) shall be a Registered Architect, Professional Engineer, Registered Technician, consultant or other qualified person who has successfully completed training as required by Law 257 and D.P.R. 08/08/94, and has been identified as responsible for asbestos material removal in the Asbestos Removal Plan submitted to the ASL and approved by the ASL. The PQP shall perform visual inspections as indicated in D.M. 06/09/94.

1.2.23 TEM

Refers to Transmission Electron Microscopy.

1.2.24 Time Weighted Average (TWA)

The TWA is an 8-hour time weighted average airborne concentration of asbestos fibers.

1.2.25 Wetting Agent

A chemical added to water to reduce the water's surface tension thereby increasing the water's ability to soak into the material to which it is applied. An equivalent wetting agent must have a surface tension of at most 2.9 Pa when tested with a tensiometer type du Nouy or equivalent.

1.3 REQUIREMENTS

1.3.1 Description of Work

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NOTE: Specify the form, condition and approximate quantity square meters or linear meters of asbestos material to be controlled in the first blank and the location of the material in the second blank. Example: "The asbestos work includes the demolition and removal of 90 m of 200 mm diameter asbestos insulation located on existing steam piping indicated to be removed in the boiler room." or "The asbestos work includes the encapsulation of 270 square meters of sprayed on asbestos containing fire proofing materials located above the ceiling throughout the structure."

The use of this section in the contract specification means that known asbestos material is involved. Estimate the quantity and specify as unit price items in Section 00200, "Instructions to Bidders" or Section 01200, "Price and Payment

Procedures" per standard practice of the activity preparing the contract.

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NOTE: Include reference 40 CFR 763 when asbestos work occurs in a public or private school Grades K thru 12.

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NOTE: Nonfriable ACM may not require special handling. However, during demolition and removal of this material dust and airborne asbestos fibers will sometimes be released. If the project contains nonfriable asbestos which may release fibers when demolished and removed, the nonfriable asbestos shall be removed in the same way as friable asbestos. Include "Under normal.... specified herein.", if material traditionally defined as non-friable asbestos materials are to be removed.

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NOTE: The appropriate engineering control technique must comply with the requirements outlined in 29 CFR 1926.1101 which is selected based on existing conditions, but must be that technique that provides the best control during abatement at most reasonable cost.

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The work covered by this section includes the handling and control of asbestos containing materials and describes some of the resultant procedures and equipment required to protect workers, the environment and occupants of the building or area, or both, from contact with airborne asbestos fibers. The work also includes the disposal of any asbestos containing materials generated by the work. More specific operational procedures shall be outlined in the Asbestos Hazard Abatement Plan called for elsewhere in this specification. The asbestos work includes the [demolition and removal] [encapsulation] of [_____] located [_____] to be in accordance with DOD-FGS-Italy, D.M. 45, D.L. 277, D.M. 06/09/94, D.L. 494, and D.L. 626. [Under normal conditions non-friable or chemically bound materials containing asbestos would not be considered hazardous; however, this material may release airborne asbestos fibers during demolition and removal and therefore must be handled in accordance with the removal and disposal procedures as specified herein.] Provide [negative pressure enclosure] [_____] techniques as outlined in this specification. The Navy will evacuate the [building] [work area] during the asbestos abatement work. All asbestos removal work shall be supervised by a competent person as specified herein.

1.3.1.1 Wallboard/Joint Compound

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NOTE: When both composite and discrete sampling and testing is done on wallboard/joint compound, include and edit the following to address the site specific situation:
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[Both composite samples of the wallboard and discrete samples of the components (wallboard and joint compound) have been tested and results are attached.]

[Composite samples of the wallboard system were tested and found to contain [less than one percent asbestos] [_____]. Discrete samples of the wallboard were tested and found to contain [less than one percent asbestos.] [_____]. Discrete samples of the joint compound were tested and found to contain [greater than one percent asbestos.] [_____].]

1.3.2 Medical Requirements

Provide medical requirements including but not limited to medical surveillance and medical record keeping.

1.3.2.1 Medical Examinations

Before exposure to airborne asbestos fibers, provide workers with a comprehensive medical examination for evidence of asbestos related ailments. This requirement must have been satisfied within the 12 months prior to the start of work on this contract. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos and within 30 calendar days before or after the termination of employment in such occupation. Specifically identify x-ray films of asbestos workers to the consulting radiologist and mark medical record jackets with the word "ASBESTOS."

1.3.2.2 Medical Records

Maintain complete and accurate records of employees' medical examinations, medical records, and exposure data and transmit them to ISPESL immediately after termination of employment in accordance with D.L. 626, Article 70, or authorized representatives of them, and an employee's physician upon the request of the employee or former employee.

1.3.3 Employee Training

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NOTE: Include bracketed sentence
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Submit certificates, prior to the start of work but after the main abatement submittal, signed by each employee indicating that the employee has received training in the proper handling of materials and wastes that contain asbestos[in accordance with D.M. 45 and D.L. 626]; understands the health implications and risks involved, including the illnesses possible

from exposure to airborne asbestos fibers; understands the use and limits of the respiratory equipment to be used; and understands the results of monitoring of airborne quantities of asbestos as related to health and respiratory equipment[as indicated in D.L. 626] on an initial and annual basis. Certificates shall be organized by individual worker, not grouped by type of certification. [Post appropriate evidence of compliance with the training requirements of D.M. 45 and D.L. 626.] [Train all personnel involved in the asbestos control work in accordance with training criteria prescribed by Law 257 and D.P.R. 08/08/94.] The Contractor shall document the training by providing: dates of training, training entity, course outline, names of instructors, and qualifications of instructors upon request by the Contracting Officer. Furnish each employee with respirator training and fit testing administered by the PQP. Fully cover engineering and other hazard control techniques and procedures.

1.3.4 Permits [, Licenses,] and Notifications

Obtain necessary permits [and licenses] in conjunction with asbestos removal, encapsulation, hauling, and disposition, and furnish notification of such actions required by DOD-FGS-Italy and the ASL prior to the start of work. Notify the Contracting Officer and other appropriate Government agencies in writing 20 working days prior to the start of asbestos work as indicated in applicable laws, norms, ordinances, criteria, rules, and regulations. Submit copies of all Notifications to the Contracting Officer. [Notify the station fire department 3 days prior to removing fire-proofing material from the building including notice that the material contains asbestos.]

1.3.5 Environment, Safety and Health Compliance

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NOTE: The designer shall research local laws, regulations, statutes, etc., and list by authority and document number in the blank spaces provided those which apply to the asbestos work to be performed by the Contractor.

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In addition to detailed requirements of this specification, comply with those applicable laws, ordinances, criteria, rules, and regulations of the ASL regarding handling, storing, transporting, and disposing of asbestos waste materials. Comply with the applicable requirements of DOD-FGS-Italy, D.L. 277, D.M. 471, D.L. 17/03/95, and the ASL. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting the work. Where the requirements of this specification, applicable laws, rules, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirement as defined by the Government shall apply.

1.3.6 Respiratory Protection Program

Establish and implement a respirator program as required by D.L. 277, D.L. 02/05/01, and D.L. 626. Submit a written description of the program to the Contracting Officer. Submit a written program manual or operating

procedure including methods of compliance with regulatory statutes.

1.3.6.1 Respirator Program Records

Submit records of the respirator program as required by D.M. 06/09/94.

1.3.7 Asbestos Hazard Control Supervisor

The Contractor shall be represented on site by a supervisor trained in accordance with criteria prescribed in Law 257 and D.P.R. 08/08/94 for all portions of the herein listed work.

1.3.8 Hazard Communication

Provide the Contracting Officer with a copy of the Material Safety Data Sheets (MSDS) for all materials brought to the site.

1.3.9 Asbestos Hazard Abatement Plan

Submit a detailed plan of the safety precautions such as lockout, tagout, tryout, fall protection, and confined space entry procedures and equipment and work procedures to be used in the [encapsulation] [removal] [and demolition] of materials containing asbestos in accordance with D.L. 17/03/95. The plan, not to be combined with other hazard abatement plans, shall be prepared, signed, and sealed by the PQP. Provide a Table of Contents for each abatement submittal, which shall follow the sequence of requirements in the contract. Such plan shall comply with the Station Asbestos Management Plan and include, but not be limited to, the precise personal protective equipment to be used including, but not limited to, respiratory protection, type of whole-body protection [and if reusable coveralls are to be employed decontamination methods (operations and quality control plan)], the location of asbestos control areas including clean and dirty areas, buffer zones, showers, storage areas, change rooms, [removal] [encapsulation] method, interface of trades involved in the construction, sequencing of asbestos related work, disposal plan, type of wetting agent and asbestos sealer to be used, locations of local exhaust equipment, planned air monitoring strategies, and a detailed description of the method to be employed in order to control environmental pollution. The plan shall also include (both fire and medical emergency) response plans and all ASL requirements for handling and disposition of ACM's. The Asbestos Hazard Abatement Plan must be approved in writing prior to starting any asbestos work. The Contractor, Asbestos Hazard Control Supervisor, and PQP shall meet with the Contracting Officer prior to beginning work, to discuss in detail the Asbestos Hazard Abatement Plan, including work procedures and safety precautions. Once approved by the Contracting Officer, the plan will be enforced as if an addition to the specification. Any changes required in the specification as a result of the plan shall be identified specifically in the plan to allow for free discussion and approval by the Contracting Officer prior to starting work.

1.3.10 Testing Laboratory

Submit the name, address, and telephone number of each testing laboratory selected for the [sampling,] analysis, and reporting of airborne

concentrations of asbestos fibers along with [evidence that each laboratory selected holds the appropriate license and/or permits and] certification that each laboratory is certified for Asbestos Control in accordance with ASL and National Law enforced restrictions and requirements. Where analysis to determine asbestos content in bulk materials or transmission electron microscopy is required, submit evidence that the laboratory is accredited by and recognized by the ASL. The testing laboratory firm shall be independent of the asbestos contractor and shall have no employee or employer relationship that could constitute a conflict of interest.

1.3.11 Landfill Approval

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NOTE: Disposal of ACM must be conducted by authorized companies registered in the National Waste Managing Company Register of Italy, and according to procedures in Chapter 6 (Waste Management) of the DOD-FGS-Italy. In-country disposal of ACM must be in Type IIB landfills if the asbestos fibers or dust concentration is less than 10,000 mg/kg, or in Type IIC landfills if asbestos concentrations exceed that level.
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Submit written evidence that the landfill for disposal is approved for asbestos disposal by the ASL and is listed in the National Waste Managing Company Register of Italy. Submit to the Contracting Officer, waste shipment records, prepared in accordance with ASL requirements, signed and dated by an agent of the landfill, certifying the amount of asbestos materials delivered to the landfill, within 3 days after delivery. In those locations that require a hazardous waste manifest the Contractor shall submit, within 3 days, signed copies of such to the Contracting Officer.

1.3.12 Medical Certification

Provide a written certification for each worker and supervisor, signed by a licensed physician indicating that the worker and supervisor has met or exceeded all of the medical prerequisites listed herein and as prescribed by DOD-FGS-Italy and D.M. 21/01/87. Submit certificates prior to the start of work but after the main abatement submittal.

1.4 SUBMITTALS

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NOTE: The submittals required for each project are very dependent upon the removal method to be used. Edit the submittals paragraph accordingly.
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NOTE: Where a "G" in submittal tags follows a submittal item, it indicates Government approval for that item. Add "G" in submittal tags following any

added or existing submittal items deemed sufficiently critical, complex, or aesthetically significant to merit approval by the Government. Submittal items not designated with a "G" will be approved by the QC organization.

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Submit the following in accordance with Section 01330, "Submittal Procedures."

SD-03 Product Data

Local exhaust equipment; G

Vacuums; G

Respirators; G

Pressure differential automatic recording instrument; G

Amended water; G

[Glovebags; G]

Material Safety Data Sheets (MSDS) for all materials proposed for transport to the project site; G

Encapsulants; G

SD-06 Test Reports

Air sampling results; G

Pressure differential recordings for local exhaust system; G

Asbestos disposal quantity report; G

Encapsulation test patches; G

Clearance sampling; G

SD-07 Certificates

Asbestos hazard abatement plan; G

Testing laboratory; G

Private qualified person documentation; G

Landfill approval; G

Employee training; G

Medical certification requirements; G

Waste shipment records and if applicable exemption report; G

Respiratory Protection Program; G

Hazardous waste manifest; G

Vacuums; G

Water filtration equipment; G

Ventilation systems; G

Other equipment used to contain airborne asbestos fibers; G

Chemical encapsulants sealers; G

Notifications

Competent person documentation; G

ASL Sampling Certificate; G

Certificates shall show compliance with DOD-FGS-Italy and Law 257 by providing manufacturers' certifications.

SD-11 Closeout Submittals

Notifications; G

Rental equipment; G

Respirator program records; G

Permits [and licenses]; G

[Protective clothing decontamination quality control records; G]

[Protective clothing decontamination facility notification; G]

1.5 QUALITY ASSURANCE

1.5.1 Private Qualified Person Documentation

Submit the name, address, and telephone number of the Private Qualified Person (PQP) selected to prepare the Asbestos Hazard Abatement Plan, direct monitoring and training, and documented evidence that the PQP has successfully completed training. The qualified person and the asbestos contractor shall not have an employee or employer relationship or financial relationship that could constitute a conflict of interest. The PQP shall be a first tier subcontractor.

1.5.2 Competent Person Documentation

Submit training certifications and experience qualifications.

1.5.3 Air Sampling Results

Complete fiber counting and provide results to the PQP for review within 16 hours of the "time off" of the sample pump. Notify the Contracting Officer immediately of any airborne levels of asbestos fibers in excess of the acceptable limits. Submit sampling results to the Contracting Officer and the affected Contractor employees where required by law within 3 working days, signed by the testing laboratory employee performing air sampling, the employee that analyzed the sample, and the PQP. Notify the Contractor and the Contracting Officer immediately of any variance in the pressure differential which could cause adjacent unsealed areas to have asbestos fiber concentrations in excess of 0.01 fibers per cubic centimeter or background whichever is higher. In no circumstance shall levels exceed 0.1 fibers per cubic centimeter.

1.5.4 Pressure Differential Recordings for Local Exhaust System

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NOTE: When a negative pressure enclosure is not required, delete the requirements for the local exhaust system and pressure differential recording.
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Provide a local exhaust system that creates a negative pressure of at least 0.51 mm of water relative to the pressure external to the enclosure and operate it continuously, 24 hours a day, until the temporary enclosure of the asbestos control area is removed. Submit pressure differential recordings for each work day to the PQP for review and to the Contracting Officer within 24 hours from the end of each work day.

[1.5.5 Protective Clothing Decontamination Quality Control Records

Provide all records that document quality control for the decontamination of reusable outer protective clothing.]

[1.5.6 Protective Clothing Decontamination Facility Notification

Submit written evidence that persons who decontaminate, store, or transport asbestos contaminated clothing used in the performance of this contract were duly notified.]

1.6 EQUIPMENT

1.6.1 Rental Equipment

Provide a copy of the written notification to the rental company concerning the intended use of the equipment and the possibility of asbestos contamination of the equipment.

PART 2 PRODUCTS

2.1 SOURCE MANUFACTURERS

2.1.1 Encapsulants

The following manufacturers provide encapsulant materials that generally comply with these specifications:

Applicazioni Realizzazioni Tecnologiche
Via Petrarca 9/11
24052 Azzano San Paolo (BG)
Tel: 035-531136
Fax: 035-531538
web: www.artweb-srl.com

A.S.T. Italia s.r.l.
Via De Amicis, 4
18039 Ventimiglia
Tel: 0184-221-600
Fax: 0184-221-900
www.astitalia.it

Program S.r.l.
Via Custoza, 29
66013 Chieti Scalo (CH)
Tel: 0871-5870.1
Fax: 0871-562191
www.programsrl.it

2.2 ENCAPSULANTS

D.M. 06/09/94 and D.M. 20/08/99. Shall contain no toxic or hazardous substances, and shall conform to requirements of UNI 8681, UNI 8757, UNI 10560, UNI 10686, and UNI 10687, as applicable.

PART 3 EXECUTION

3.1 EQUIPMENT

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NOTE: Modify the number of sets of protective equipment as required, depending on the size of the asbestos removal project. Larger projects may require more than two persons on an inspection team.
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At all times, provide the Contracting Officer or the Contracting Officer's Representative, with at least [two] [_____] complete sets of personal protective equipment [including decontaminating reusable coveralls] as required for entry to and inspection of the asbestos control area. Provide equivalent training to the Contracting Officer or a designated representative as provided to Contractor employees in the use of the required personal protective equipment. Provide manufacturer's certificate of compliance for all equipment used to contain airborne asbestos fibers.

3.1.1 Respirators

Select respirators in accordance with D.L. 277, D.M. 06/09/94, D.L. 02/05/01, and D.L. 626.

3.1.1.1 Respirators for Handling Asbestos

Provide personnel engaged in pre-cleaning, cleanup, handling, [encapsulation] [removal] [and] [or] [demolition] of asbestos materials with respiratory protection.

3.1.2 Exterior Whole Body Protection

3.1.2.1 Outer Protective Clothing

Provide personnel exposed to asbestos with disposable "non-breathable," [or reusable "non-breathable"] whole body outer protective clothing, head coverings, gloves, and foot coverings. Provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber gloves for comfort, but shall not be used alone. Make sleeves secure at the wrists, make foot coverings secure at the ankles, and make clothing secure at the neck by the use of tape. [Reusable whole body outer protective clothing shall be either disposed of as asbestos contaminated waste upon exiting from the asbestos regulated work area or be properly decontaminated.]

3.1.2.2 Work Clothing

Provide cloth work clothes for wear under the outer protective clothing and foot coverings and either dispose of or properly decontaminate them as recommended by the PQP after each use.

3.1.2.3 Personal Decontamination Unit

Provide a temporary, negative pressure unit with a separate decontamination locker room and clean locker room with a shower in between for personnel required to wear whole body protective clothing. Provide two separate lockers for each asbestos worker, one in each locker room. Keep street clothing and street shoes in the clean locker. HEPA vacuum and remove asbestos contaminated disposable protective clothing while still wearing respirators at the boundary of the asbestos work area and seal in impermeable bags or containers for disposal. [HEPA vacuum and remove asbestos contaminated reusable protective clothing while still wearing respirators at the boundary of the asbestos work area, seal in two impermeable bags, label outer bag as asbestos contaminated waste, and transport for decontamination.] Do not wear work clothing between home and work. Locate showers between the decontamination locker room and the clean locker room and require that all employees shower before changing into street clothes. Collect used shower water and filter with approved water filtration equipment to remove asbestos contamination. Dispose of filters and residue as asbestos waste. Discharge clean water to the sanitary system. Dispose of asbestos contaminated work clothing as asbestos contaminated waste [or properly decontaminate as specified in the Contractor's Asbestos Hazard Abatement Plan]. Decontamination units shall be physically attached to the asbestos control area. Build both a

personnel decontamination unit and an equipment decontamination unit onto and integral with each asbestos control area.

3.1.2.4 Decontamination of Reusable Outer Protective Clothing

When reusable outer protective clothing is used, transport the double bagged clothing to a previously notified commercial/industrial decontamination facility for decontamination. Perform non-destructive testing to determine the effectiveness of asbestos decontamination. If representative sampling is used, ensure the statistical validity of the sampling results. If representative sampling is used, reject any entire batch in which any of the pieces exceed 40 fibers per square millimeter. Inspect reusable protective clothing prior to use to ensure that it will provide adequate protection and is not or is not about to become ripped, torn, deteriorated, or damaged, and that it is not visibly contaminated. Notify, in writing, all personnel involved in the decontamination of reusable outer protective clothing.

3.1.2.5 Eye Protection

Provide goggles to personnel engaged in asbestos abatement operations when the use of a full face respirator is not required.

3.1.3 Warning Signs and Labels

Provide bilingual warning signs and labels as required by DOD-FGS-Italy, D.L. 493, and D.M. 06/09/94, printed in English and Italian. Locate warning signs at all approaches to asbestos control areas, at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide labels and affix to all containers of ACM and all asbestos materials, scrap, waste, debris, and other products contaminated with asbestos.

3.1.3.1 Warning Sign

Provide vertical format minimum 500 by 355 mm displaying the following legend in the lower panel:

Legend	Notation
Danger	25 mm Sans Serif Gothic or Block
Asbestos	25 mm Sans Serif Gothic or Block
Cancer and Lung Disease Hazard	6 mm Sans Serif Gothic or Block
Authorized Personnel Only	6 mm Gothic
Respirators and Protective Clothing are Required in this Area	6 mm Gothic

Legend Notation

Spacing between lines shall be at least equal to the height of the upper of any two lines.

3.1.3.2 Warning Labels

Provide labels on containers as indicated in DOD-FGS-Italy of sufficient size to be clearly legible, displaying the following legend:

WARNING: CONTAINS ASBESTOS.

Breathing dust is dangerous to health.

Follow safety instructions.

All labels shall include the European Waste Code or CER.

3.1.4 Local Exhaust System

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NOTE: When a negative pressure enclosure is not required, delete the requirements for the local exhaust system and pressure differential recording.

****

Provide a local exhaust system in the asbestos control area in accordance with D.M. 06/09/94 and D.L. 626 that will provide at least four air changes per hour inside of the negative pressure enclosure. Local exhaust equipment shall be operated 24 hours per day, until the asbestos control area is removed and shall be leak proof to the filter and equipped with HEPA filters. Maintain a minimum pressure differential in the control area of minus 0.51 mm of water column relative to adjacent, unsealed areas. Provide continuous 24-hour per day monitoring of the pressure differential with a pressure differential automatic recording instrument. In no case shall the building ventilation system be used as the local exhaust system for the asbestos control area. Filters on exhaust equipment shall conform to D.M. 06/09/94. The local exhaust system shall terminate out of doors and remote from any public access or ventilation system intakes.

3.1.5 Tools

Vacuums shall be leak proof to the filter and equipped with HEPA filters. Filters on vacuums shall conform to D.M. 06/09/94. Do not use power tools to remove asbestos containing materials unless the tool is equipped with effective, integral HEPA filtered exhaust ventilation systems. Remove all residual asbestos from reusable tools prior to storage or reuse.

3.1.6 Rental Equipment

If rental equipment is to be used, furnish written notification to the

rental agency concerning the intended use of the equipment and the possibility of asbestos contamination of the equipment.

[3.1.7 Glovebags

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NOTE: Include this paragraph if glovebag technique is permitted to be used in the project.
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Submit written manufacturers proof that glovebags will not break down under expected temperatures and conditions in accordance with D.M. 06/09/94 and D.M. 20/08/99.

]3.2 WORK PROCEDURE

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NOTE: Use wet removal procedures in almost all cases. Wet removal is the preferred method and the least hazardous. Dry removal as an option can be used to allow the Contractor to use dry removal where wet removal may damage equipment or present an extreme hazard. Dry removal as the only method of removal should only be specified if freezing is likely to occur, safety hazards preclude the use of water, or severe water damage to equipment, etc., would occur during wet removal. If dry removal alone is allowed, carefully edit the specification to remove all reference to amended water and wetting down procedures and to include a requirement for a written variance submitted by the Contractor along with the written approval of any regulatory authority having jurisdiction.
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NOTE: Negative pressure enclosure and glovebag techniques pertain to the two most general but yet essentially different asbestos control techniques used for asbestos removal. Encapsulation work practice techniques are listed here, also. The use of unlisted removal work practice techniques will be acceptable if they are proven at least as safe as the listed practices. The appropriate technique depends on existing conditions, but must be that technique that provides the best control during abatement at most reasonable cost.
****

Perform asbestos related work in accordance with D.M. 06/09/94, and as specified herein. Use [wet removal procedures] [appropriate encapsulation procedures as listed in the asbestos hazard abatement plan] and [negative pressure enclosure] [_____] techniques. Personnel shall wear and utilize protective clothing and equipment as specified herein. Eating, smoking,

drinking, chewing gum, tobacco, or applying cosmetics shall not be permitted in the asbestos work or control areas. Personnel of other trades not engaged in the [encapsulation] [removal and demolition] of asbestos containing material shall not be exposed at any time to airborne concentrations of asbestos unless all the personnel protection and training provisions of this specification are complied with by the trade personnel. [Seal all roof top penetrations, except plumbing vents, prior to asbestos roofing work.] Shut down the building heating, ventilating, and air conditioning system, cap the openings to the system, [and provide temporary [heating,] [and] [ventilation,] [and] [air conditioning]] prior to the commencement of asbestos work. [Disconnect electrical service when [encapsulation] [wet removal] is performed and provide temporary electrical service with verifiable ground fault circuit interrupter (GFCI) protection prior to the use of any [water] [encapsulant].] If an asbestos fiber release or spill occurs [outside of the asbestos control area], stop work immediately, correct the condition to the satisfaction of the Contracting Officer including clearance sampling, prior to resumption of work.

3.2.1 Protection of Existing Work to Remain

Perform work without damage or contamination of adjacent work. Where such work is damaged or contaminated as verified by the Contracting Officer using visual inspection or sample analysis, it shall be restored to its original condition or decontaminated by the Contractor at no expense to the Government as deemed appropriate by the Contracting Officer. This includes inadvertent spill of dirt, dust, or debris in which it is reasonable to conclude that asbestos may exist. When these spills occur, stop work immediately. Then clean up the spill. When satisfactory visual inspection and air sampling results are obtained from the PQP work may proceed at the discretion of the Contracting Officer.

3.2.2 Furnishings

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NOTE: Choose one of the following options. In most projects, the Government will remove furniture and equipment before the Contractor begins work. In this case the first paragraph should be used. The third paragraph should only be used when existing furnishings have been contaminated with asbestos fibers and the Contractor will be required to clean these items. When the third paragraph is used, identify the furnishings and indicate the quantity of each.
****

****
NOTE: The designer must decide if porous, non-solid surfaced items can be cleaned or must be disposed of as contaminated waste. If cleaning is chosen, specify methods.
****

[Furniture [,(_____)] and equipment will be removed from the area of work

by the Government before asbestos work begins.]

[Furniture [,(_____)] and equipment will remain in the building. Cover and seal furnishings with 0.15 mm plastic sheet or remove from the work area and store in a location on site approved by the Contracting Officer.]

[Furnishings listed below and located in the work area are considered to be contaminated with asbestos fibers. Transfer these items to an area on site approved by the Contracting Officer, decontaminate (wet methods where possible), and then store until the room from which they came is declared clean and safe for entry. [Carpets, draperies, and other items with porous, non-solid surfaces can not be suitably cleaned and shall be properly disposed of as contaminated waste.] At the conclusion of the asbestos removal work and cleanup operations, transfer all objects so removed and cleaned back to the area from which they came and re-install them. Base bids on decontaminating:

a. [_____] Desks

b. [_____] Filing cabinets

c. [_____] Linear meters of shelving

d. [_____] Cubic meters of books, papers, files, etc.

e. [_____]].

3.2.3 Precleaning

Wet wipe and HEPA vacuum all surfaces potentially contaminated with asbestos prior to establishment of an enclosure.

3.2.4 Asbestos Control Area Requirements

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NOTE: When negative pressure enclosure is infeasible, use paragraph entitled "Glovebag" and delete paragraph entitled "Negative Pressure Enclosure." If the project has both areas which can be enclosed and areas which cannot be enclosed, retain the appropriate paragraphs and identify the areas which must be enclosed and the areas which cannot be enclosed.

****

3.2.4.1 Negative Pressure Enclosure

Block and seal openings in areas where the release of airborne asbestos fibers can be expected. Establish an asbestos negative pressure enclosure with the use of curtains, portable partitions, or other enclosures in order to prevent the escape of asbestos fibers from the contaminated asbestos work area. Negative pressure enclosure development shall include protective covering of uncontaminated walls, and ceilings with a continuous membrane of two layers of minimum 0.15 mm plastic sheet sealed with tape to

prevent water or other damage. Provide two layers of 0.15 mm plastic sheet over floors and extend a minimum of 300 mm up walls. Seal all joints with tape. Provide local exhaust system in the asbestos control area. Openings will be allowed in enclosures of asbestos control areas for personnel and equipment entry and exit, the supply and exhaust of air for the local exhaust system and the removal of properly containerized asbestos containing materials. Replace local exhaust system filters as required to maintain the efficiency of the system.

[3.2.4.2 Glovebag

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NOTE: Specify the asbestos material to be removed in the first blank and identify the location of the area which cannot be enclosed in the second blank.
****

The construction of a negative pressure enclosure is infeasible for the [removal] [encapsulation] of [_____] located [_____]. Establish designated limits for the asbestos regulated area with the use of rope or other continuous barriers, and maintain all other requirements for asbestos control areas. Perform the removal of asbestos-containing materials in strict accordance with the written instructions of the glovebag manufacturer. The PQP shall conduct personal samples of each worker engaged in asbestos handling (removal, disposal, transport and other associated work) throughout the duration of the project. If the quantity of airborne asbestos fibers monitored at the breathing zone of the workers at any time exceeds background or 0.01 fibers per cubic centimeter whichever is greater, stop work, evacuate personnel in adjacent areas or provide personnel with approved protective equipment at the discretion of the Contracting Officer. This sampling may be duplicated by the Government at the discretion of the Contracting Officer. If the air sampling results obtained by the Government differ from those obtained by the Contractor, the Government will determine which results predominate. If adjacent areas are contaminated as determined by the Contracting Officer, clean the contaminated areas, monitor, and visually inspect the area as specified herein.

][3.2.5 Removal Procedures

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NOTE: Choose "Removal Procedures" or "Encapsulation Procedures" as appropriate for the project.
****

Wet asbestos material with a fine spray of [amended water] [a specific wetting agent such as light oil] during removal, cutting, or other handling so as to reduce the emission of airborne fibers. Remove material and immediately place in 0.15 mm plastic disposal bags. Remove asbestos containing material in a gradual manner, with continuous application of the amended water or wetting agent in such a manner that no asbestos material is disturbed prior to being adequately wetted. Where unusual circumstances prohibit the use of 0.15 mm plastic bags, submit an alternate proposal for containment of asbestos fibers to the Contracting Officer for approval.

For example, in the case where both piping and insulation are to be removed, the Contractor may elect to wet the insulation, wrap the pipes and insulation in plastic and remove the pipe by sections. Asbestos containing material shall be containerized while wet. At no time shall asbestos material be allowed to accumulate or become dry. Lower and otherwise handle asbestos containing material to the ground using procedures that preclude the dispersion of dust.

3.2.5.1 Sealing Contaminated Items Designated for Disposal

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NOTE: Use this paragraph only when asbestos contaminated items are also designated for removal and disposal.

****

Remove contaminated architectural, mechanical, and electrical appurtenances such as venetian blinds, full-height partitions, carpeting, duct work, pipes and fittings, radiators, light fixtures, conduit, panels, and other contaminated items designated for removal by completely coating the items with an asbestos lock-down encapsulant at the demolition site before removing the items from the asbestos control area. These items need not be vacuumed. The asbestos lock-down encapsulant shall be tinted a contrasting color. It shall be spray-applied by airless method. Thoroughness of sealing operation shall be visually gauged by the extent of colored coating on exposed surfaces. Lock-down encapsulants shall comply with the performance requirements specified herein.

3.2.5.2 Exposed Pipe Insulation Edges

Contain edges of asbestos insulation to remain that are exposed by a removal operation. Wet and cut the rough ends true and square with sharp tools and then encapsulate the edges with a 6 mm thick layer of non-asbestos containing insulating cement troweled to a smooth hard finish. When cement is dry, lag the end with a layer of non-asbestos lagging cloth, overlapping the existing ends by at least 100 mm. When insulating cement and cloth is an impractical method of sealing a raw edge of asbestos, take appropriate steps to seal the raw edges as approved by the Contracting Officer.

][3.2.6 Encapsulation Procedures

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NOTE: Choose "Removal Procedures" or "Encapsulation Procedures" as appropriate for the project.

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3.2.6.1 Preparation of Test Patches

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NOTE: Prior to preparing plans and specifications for an encapsulation project, the designer will have to ascertain that encapsulation is feasible at all. The foremost design criteria is the soundness of the existing asbestos containing matrix, i.e. the bond

of the matrix to the substrate and the shear strength of the matrix itself. The designer should test the existing matrix in accordance with the ASTM E 1494, using the Field Testing Provisions for the Adhesion Test.

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NOTE: Exercise discretion on the number and location of Contractor applied test patches. However, a minimum of three test patches should always be specified. Test locations, in areas of the matrix, that have a different appearance or raise doubts about their homogeneity. Specify number of test patches in first bracket and location in second bracket. Also show location on drawings.

****

Install [three] [_____] test patches of encapsulant in [_____][, as indicated]. Use airless spray at the lowest pressure and as recommended by the encapsulant manufacturer. Follow exactly the manufacturer's instructions for thinning recommendations, application procedures and rates. Curing time shall be not less than five days or that recommended by the manufacturer, whichever is more. A test patch shall be 0.8 square meter in size.

3.2.6.2 Field Testing

Field test the encapsulation test patches for adhesion and coverage in accordance with UNI 10686 and UNI 10687, in the presence of the Contracting Officer. Keep a written record of the testing procedures and test results. Upon successful testing of the encapsulant, submit a signed statement to the Contracting Officer certifying that the encapsulant is suitable for installation on the particular asbestos containing material.

3.2.6.3 Large-Scale Application

Apply encapsulant using the same equipment and procedures as employed for the test patches. Keep the encapsulant material stirred to prevent settling. Keep a clean work area. Change pre-filters in the ventilation equipment as soon as they appear clogged by encapsulant aerosol or pressure differential drops below 0.51 mm of water column.

]3.2.7 Air Sampling

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NOTE: Air sampling regimen is very dependent on removal method and applicable laws, edit accordingly.

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Sampling of airborne concentrations of asbestos fibers shall be performed as specified herein. Sampling shall be performed by the PQP. [Sampling performed for environmental and quality control reasons shall be performed by the PQP.] Unless otherwise specified, use procedures prescribed in D.L.

277, Article V for sampling and analysis. Monitoring may be duplicated by the Government at the discretion of the Contracting Officer. If the air sampling results obtained by the Government differ from those results obtained by the Contractor, the Government will determine which results predominate.

3.2.7.1 Sampling Prior to Asbestos Work

Provide area air sampling and establish the baseline one day prior to the masking and sealing operations for each [demolition] [removal] [encapsulation] site. Establish the background by performing area sampling in similar but uncontaminated sites in the building.

3.2.7.2 Sampling During Asbestos Work

The PQP shall provide personal and area sampling as prescribed in D.L. 277, Article V. In addition, provided the same type of work is being performed, provide area sampling at least once every work shift close to the work inside the enclosure, outside the clean room entrance to the enclosure, and at the exhaust opening of the local exhaust system. If sampling outside the enclosure shows airborne levels have exceeded background or 0.01 fibers per cubic centimeter, whichever is greater, stop all work, correct the condition(s) causing the increase, and notify the Contracting Officer immediately. [Where alternate methods are used, perform personal and area air sampling at locations and frequencies that will accurately characterize the evolving airborne asbestos levels.]

3.2.7.3 Sampling After Final Clean-Up (Clearance Sampling)

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NOTE: The designer shall research air sampling required.

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NOTE: The designer shall research local laws, regulations, statutes, etc., to determine whether TEM analysis is required and the number of samples required.

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Provide area sampling of asbestos fibers using air sampling techniques as prescribed by D.M. 06/09/94 and establish an airborne asbestos concentration of less than 0.01 fibers per cubic centimeter after final clean-up but before removal of the enclosure or the asbestos work control area. After final cleanup and the asbestos control area is dry but prior to clearance sampling, the PQP shall perform a visual inspection in accordance with D.M. 06/09/94 to ensure that the asbestos control and work area is free of any accumulations of dirt, dust, or debris. PQP shall sweep floor, walls, and ceiling of regulated area with a minimum 750 W electric leaf blower for a period of one minute. [Prepare a written report signed and dated by the PQP documenting that the asbestos control area is free of dust, dirt, and debris and all waste has been removed.] [Perform at least [_____] samples.] [Use transmission electron microscopy (TEM) to

analyze clearance samples and report the results in accordance with D.M. 06/09/94.] The asbestos fiber counts from these samples shall be less than 0.01 fibers per cubic centimeter or be not greater than the background, whichever is greater. Should any of the final samples indicate a higher value, the Contractor shall take appropriate actions to re-clean the area and shall repeat the sampling and [TEM] analysis at the Contractor's expense.

3.2.8 Lock-Down

Prior to removal of plastic barriers and after pre-clearance clean up of gross contamination, the PQP shall conduct a visual inspection of all areas affected by the [removal] [encapsulation] in accordance with D.M. 06/09/94. Inspect for any visible fibers [, and to ensure that encapsulants were applied evenly and appropriately]. [A post removal (lock-down) encapsulant shall then be spray applied to ceiling, walls, floors and other areas exposed in the removal area. The exposed area shall include but not be limited to plastic barriers, furnishings and articles to be discarded as well as dirty change room, air locks for bag removal and decontamination chambers.]

3.2.9 Site Inspection

While performing asbestos engineering control work, the Contractor shall be subject to on-site inspection by the Contracting Officer who may be assisted by or represented by safety or industrial hygiene personnel. If the work is found to be in violation of this specification, the Contracting Officer or his representative will issue a stop work order to be in effect immediately and until the violation is resolved. All related costs including standby time required to resolve the violation shall be at the Contractor's expense.

3.2.10 ASL Sampling Certificate

Upon completion of all removal activities notify the ASL to conduct confirmatory sampling and issue a certificate of re-occupancy. The building shall not be re-occupied until receipt of such certificate.

3.3 CLEAN-UP AND DISPOSAL

3.3.1 Housekeeping

Essential parts of asbestos dust control are housekeeping and clean-up procedures. Maintain surfaces of the asbestos control area free of accumulations of asbestos fibers. Give meticulous attention to restricting the spread of dust and debris; keep waste from being distributed over the general area. Use HEPA filtered vacuum cleaners. DO NOT BLOW DOWN THE SPACE WITH COMPRESSED AIR. When asbestos removal is complete, all asbestos waste is removed from the work-site, and final clean-up is completed, the Contracting Officer will attest that the area is safe before the signs can be removed. After final clean-up and acceptable airborne concentrations are attained but before the HEPA unit is turned off and the enclosure removed, remove all pre-filters on the building HVAC system and provide new pre-filters. Dispose of filters as asbestos contaminated materials.

Reestablish HVAC mechanical, and electrical systems in proper working order. The Contracting Officer will visually inspect all surfaces within the enclosure for residual material or accumulated dust or debris. The Contractor shall re-clean all areas showing dust or residual materials. If re-cleaning is required, air sample and establish an acceptable asbestos airborne concentration after re-cleaning. The Contracting Officer must agree that the area is safe in writing before unrestricted entry will be permitted. The Government shall have the option to perform monitoring to determine if the areas are safe before entry is permitted.

3.3.2 Title to Materials

All waste materials, except as specified otherwise, shall become the property of the Contractor and shall be disposed of as specified in applicable local regulations and herein.

3.3.3 Disposal of Asbestos

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NOTE: Contact local station for local procedures.
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3.3.3.1 Procedure for Disposal

Collect asbestos waste, asbestos contaminated water, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing which may produce airborne concentrations of asbestos fibers and place in sealed fiber-proof, waterproof, non-returnable containers (e.g. double plastic bags 0.15 mm thick, cartons, drums or cans). Wastes within the containers must be adequately wet. Affix a warning label to each container including the bags or use at least 0.15 mm thick bags with DOD-FGS-Italy labeling preprinted on the bag. The name of the waste generator and the location at which the waste was generated shall be clearly indicated on the outside of each container. Prevent contamination of the transport vehicle (especially if the transport vehicle is a rented truck likely to be used in the future for non-asbestos purposes). These precautions include lining the vehicle cargo area with plastic sheeting (similar to work area enclosure) and thorough cleaning of the cargo area after transport and unloading of asbestos debris is complete. Dispose of waste asbestos material at an approved [Type IIB] [Type IIC] asbestos landfill off Government property. For temporary storage, store sealed impermeable bags in asbestos waste drums or skids. An area for interim storage of asbestos waste-containing drums or skids will be assigned by the Contracting Officer or his authorized representative. Procedure for hauling and disposal shall comply withADL requirements. Sealed plastic bags may be dumped from drums into the burial site unless the bags have been broken or damaged. Damaged bags shall remain in the drum and the entire contaminated drum shall be buried. Uncontaminated drums may be recycled. Workers unloading the sealed drums shall wear appropriate respirators and personal protective equipment when handling asbestos materials at the disposal site.

3.3.3.2 Asbestos Disposal Quantity Report

Direct the PQP to record and report, to the Contracting Officer, the amount

of asbestos containing material removed and released for disposal. Deliver the report for the previous day at the beginning of each day shift with amounts of material removed during the previous day reported in linear meters or square meters as described initially in this specification and in cubic meters for the amount of asbestos containing material released for disposal.

-- End of Section --